

4. On *Trichorhiza*, a new Hydroid Genus.

By E. S. RUSSELL*.

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(Plate V. †)

TRICHORHIZA.

Hydranth solitary, attached loosely by the hydrorhiza, which is filiform and branched. Invested by perisarc, which forms a protective cup into which the hydranth is partly retractile.

The genus *Trichorhiza* is here constituted for a single new species, whose characters are so remarkable as to make the formation of a separate genus for its reception a necessity. The following description of this new species is made from the only specimen which I have seen.

TRICHORHIZA BRUNNEA. (Plate V.)

Trichorhiza brunnea Russell, Abstr. P. Z. S. No. 26, p. 6, Feb. 13, 1906.

Trophosome. Hydrorhiza long and tapering, giving off about half-a-dozen filiform branches along the lower half. The cenosarc apparently does not extend into this lower half nor into the branches. The perisarc expands above to form a cup, marked by four transverse grooves. Immediately below this cup several longitudinal lines are present on the perisarc. The hydranth is conical upon a moderately long peduncle. Tentacles in two verticils; the proximal filiform, twelve in number, when extended as long as the hydranth, set with numerous rings of nematocysts; the distal capitate, seven in number, and very short. The latter are inserted on the summit of the hypostome, the former near the base of the conical head of the hydranth.

Gonosome. A circlet of 8-10 sessile medusoids, which are developed between the proximal and the distal rows of tentacles and become free.

Dimensions :—

Total length of hydranth	1·5 mm.
Total breadth of hydranth	0·8 mm.
Overall length of hydroid	11·0 mm.

Colours. Perisarc straw-coloured, except that forming the cup, which is chocolate-coloured. Tentacles translucent white. Body of hydranth pale reddish-brown.

Gonophore (at time of liberation). Hemispherical, in systole bell-shaped, slightly contracted in the upper third, and constricted

* [The complete account of the new species described in this communication appears here; but since the name and preliminary diagnosis were published in the 'Abstract,' the species is distinguished by the name being underlined.—EDITOR.]

† For explanation of the Plate, see p. 101.

at opening of umbrella-cavity. Exumbrella with a few nematocysts scattered over it. Velum well developed.

Manubrium, when extended, as long as umbrella-cavity, cylindrical, and with narrowed end.

Mouth simple, circular, with a ring of bead-like nematocysts closely surrounding it.

Four ocellar bulbs, ellipsoid: one of these is somewhat larger than the others. Radial canals four, simple.

Dimensions. Length of bell 0.8 mm.; breadth of bell 0.7 mm.

Colours. Manubrium tinged with yellow, but very faintly. Ocellar bulbs golden yellow.

The type specimen of *Trichorhiza brunnea* was discovered on June 29th, 1905, clinging to the tentacles of a specimen of *Corymorpha nutans* Sars, dredged in 17 fath. at Ettrick Bay, Bute, Firth of Clyde. The filiform hydrorhiza with its branches was intertwined among the tentacles of the *Corymorpha* so as to be with difficulty unravelled from them. The *Trichorhiza* was kept alive for a day or two at the Millport Marine Biological Station, and gave off on July 1st the medusoid which has been described. It was usually to be seen half-retracted into its protective cup, with the proximal tentacles much contracted, and the distal ones looking like mere knobs. On the rare occasions on which it was observed in an expanded condition, the tentacles of the outer circle were seen to be held rather stiffly extended.

Systematic. On account of its possession of two verticils of tentacles, the proximal filiform and the distal capitate, *Trichorhiza* is to be referred to the family Pennariidæ as constituted by Allman (1). That family contained the following genera:—*Pennaria* Goldfuss, *Halocordyle* Allman, *Stauridium* Dujardin, *Vorticlava* Alder, *Heterostephanus* Allman, *Acharadria* Wright, and *Acaulis* Stimpson.

Two other genera have sometimes been associated with the Pennariidæ, namely *Blastothela* Verrill, which is placed among the Pennariidæ by Delage et Hérouard (3), and *Tiarella* Schulze, which is referred to the same family by G. Herbert Fowler (4). But such an assemblage of genera by no means makes up a homogeneous family. K. C. Schneider (6), in his critical revision of the classification of Hydroids, has removed *Stauridium* to his amended family of the Corynidiæ. *Tiarella*, with its three rows of capitate tentacles, has also been referred to this extended family of the Corynidiæ by Mme. Motz-Kossowska (5), who follows Schneider's classification in the main. These two genera are rightly separated from the other genera of Pennariidæ, as they have little in common with the Pennarian type. The seven which remain of the nine genera mentioned above are all fairly closely allied to one another. *Halocordyle* certainly must be united with *Pennaria*, and we may with Schneider also bring under *Pennaria* the genera *Vorticlava*, *Acharadria*, *Acaulis*, and *Heterostephanus*. *Heterostephanus* is allied by its medusoid with the *Corymorpha* type. *Blastothela* too

(Verrill, 7) resembles *Corymorpha* in its possession of root-like fixing-processes at the base.

From all these genera of the Pennaridæ (*sensu stricto*), however, *Trichorhiza* is separated by the characters of its hydrorhiza, and also by the possession of a sort of theca, comparable to that of a calyptoblast. The branches of the hydrorhiza may be compared with the filamentous processes of the base in *Corymorpha*, but there is no real affinity between the two structures.

The medusoid of *Trichorhiza*, so far as one can judge from an immature specimen, resembles the medusoid of *Pennaria tiarella*, which, however, has no developed tentacles at all (Ayes, 2), while the medusoid of *Trichorhiza* seems to have one tentacle-bulb more developed than the other three, and in this respect approaches to the medusoids of the *Corymorpha*-like forms, most of which bear one developed tentacle.

On the whole, *Trichorhiza* is to be associated with the *Pennaria*-like forms, though the characters of its hydrorhiza and its "theca" give it a somewhat isolated position among them.

References.

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- (3). DELAGE et HÉROUARD.—Traité de Zoologie Concrète, tome ii. pt. 2 (1900).
- (4). FOWLER, G. HERBERT.—In 'A Treatise on Zoology' (Lankester), vol. ii. (1900).
- (5). MOTZ-KOSSOWSKA, S.—Archives de Zool. expér. et gén. sér. iv. tome iii. (1905) p. 39.
- (6). SCHNEIDER, K. C.—Zool. Jahrb. x. [Syst.] (1898) p. 472.
- (7). VERRILL, A.—Amer. Journ. Sci. (3) xvi. (1878) p. 374.

EXPLANATION OF PLATE V.

Fig. 1. *Trichorhiza brunnea*. Hydroid, p. 99.

Fig. 2. *Trichorhiza brunnea*. Medusoid, p. 100.

5. A List of the Mammals obtained by Messrs. R. B. Woosnam and R. E. Dent in Bechuanaland. By HAROLD SCHWANN, F.Z.S.

[Received December 15, 1905.]

(Plate VI.*)

This very interesting collection, made by Messrs. R. B. Woosnam and R. E. Dent in Bechuanaland, was obtained chiefly at two localities, viz. Kuruman and Molopo. The former is situated about 100 miles south-west of Vryburg on the Kuruman River, whose course flows parallel to the range of hills bearing the same

* For explanation of the Plate, see p. 111.